

ABSTRACT

A current mirror seatbelt interface circuit and method for accurately determining seatbelt latch status in a passenger vehicle safety system. By the use of a current mirror circuit, the current through the seatbelt latches can be accurately determined. This determination is used to activate (if the seatbelts are buckled) or inactivate (if the seatbelts are unbuckled) the safety protection systems including passenger airbags and seatbelt tensioners. The current through the seatbelt latch sensor is mirrored through the circuit herein disclosed. The mirrored current is monitored and the current value is analyzed by an airbag control microprocessor circuit to activate or inactivate the safety system. Parallel wired matching transistors in conjunction with a control transistor accurately provide the mirrored current information to the microprocessor. In addition, multiple seatbelt latch sensors can be connected to the current mirror by adding control transistors for each additional seatbelt latch.